

Careers in Space and Life Sciences

Our mission in the Space and Life Sciences Directorate is to be the world's leader in understanding space and the opportunities, capabilities, and limitations of human beings living and working in the frontier of space.

Johnson Space Center is the lead center for bioastronautics. We ensure that humans have a safe, healthy, and productive time while they're in space. We also provide national leadership in the field of astromaterials, such as meteorites, extraterrestrial soils, and other materials from space. We perform research on projects in planetary, space, and Earth sciences, and we provide basic information to understand the origin and evolution of our solar system.

Whether you're interested in studying people or planets, this is the place for you.

Typical Degrees Advanced or graduate degrees in Medicine, Biology, Biomedical Engineering, Physical Sciences, Geology, Chemistry, and Astronomy

Bioastronautics

Habitability and Environmental Factors With no air, no pressure, no water, extreme temperatures, and extreme radiation, is it any wonder that space is the final frontier? We make sure our astronauts have a safe place in which to live and work while they're in space. Our job includes human factors and habitability systems; air and water quality; toxicology and microbiology; and radiation health.

Human Adaptation and Countermeasures How do the hazards of space affect humans? And what can we do to protect our astronauts? We perform biomedical research to understand the human response to spaceflight. We also develop countermeasures to protect the health and safety of our crews.

Mission and Project Management We're involved in everything from Space Shuttle and International Space Station facility operations to the development of human biomedical experiments and projects. We also provide the centralized flight project control and management within bioastronautics for experiment payload integration, mission management, and operations.

Space Medicine and Health Care Systems Our job is to keep all Johnson Space Center employees, including the astronauts, healthy. We do this by developing preventive measures and supporting testing, training activities, and mission operations that optimize the health and wellbeing of our entire workforce.

Biological Systems We're responsible for cellular biotechnology, biotechnology research, and science coordination. Our activities include cellular- and molecular-based research and development as well as work on cell-based systems.

Astromaterials

Astromaterials Research We study the planets and materials in our solar system. Not only do we strive to understand the details of how planets develop, we search for signs of primitive life in materials from space. In our labs we measure the ages and physical properties of materials, duplicate the temperatures and pressures inside planets, and reproduce cratering effects. Our studies have already led to a better understanding of the origin, evolution, and composition of our solar system – and there's more to come.

Astromaterials Curation and Acquisition Materials from space are unique. We “protect, preserve, and distribute” samples of extraterrestrial origin. Researchers from around the world recognize our labs as the “Gold Standard” as we care for samples from the Moon, meteorites collected from Antarctica, and cosmic dust gathered from the stratosphere. We also prepare to receive new samples collected from comets, asteroids, the solar wind, and, eventually, from Mars.

Human Exploration Science Exploration has always been challenging. Each new step demands that we build on the latest knowledge and technologies available. We provide the link between the scientists who study space and the engineers who build spacecraft and plan missions. Our people ensure that mission plans use the best scientific research and data available. We also provide expertise in space debris hazards as well as training in Earth and planetary sciences.

*Johnson Space Center
is NASA's curator of all
extraterrestrial materials,
from lunar samples
and meteorites to
cosmic dust.*

